

Fuel Injector Circuit Diagnosis

Circuit Description

The control module enables the appropriate fuel injector on the intake stroke for each cylinder. An ignition 1 voltage is supplied directly to the fuel injectors. The control module controls each fuel injector by grounding the control circuit via a solid state device called a driver.

Diagnostic Aids

- Monitoring the fuel injector circuit status with a scan tool, while moving the fuel injector harness, may help to isolate an intermittent condition.
- Performing the Fuel Injector Coil Test may help isolate an intermittent condition. Refer to [Fuel Injector Solenoid Coil Test](#) .
- For an intermittent condition, refer to [Intermittent Conditions](#) .

Test Description

The numbers below refer to the step numbers on the diagnostic table.

4. This step tests for a short to ground on the ignition 1 voltage supply circuit of the fuel injector.
5. This step tests for an open ignition 1 voltage supply circuit between the injector fuse and a fuel injector electrical connector.

Step	Action	Yes	No
Schematic Reference: Engine Controls Schematics			
Connector End View Reference: Engine Controls Connector End Views or Powertrain Control Module Connector End Views			
1	Did you perform the Diagnostic System Check-Engine Controls?	Go to Step 2	Go to Diagnostic System Check - Engine Controls
2	Are any fuel injector DTCs set?	Go to DTC P0201, P0202, P0203, P0204, P0205, or P0206	Go to Step 3
3	Inspect the fuel injector fuse. Is the fuel injector fuse open?	Go to Step 4	Go to Step 5
4	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect an electrical connector of a fuel injector. 3. Turn ON the ignition, with the engine OFF. 		

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	<p>4. Probe the ignition 1 voltage supply circuit of a fuel injector with a test lamp connected to B+.</p> <p>Does the test lamp illuminate?</p>	Go to Step 6	Go to Diagnostic Aids
5	<p>1. Turn OFF the ignition. 2. Disconnect an electrical connector of a fuel injector. 3. Turn ON the ignition, with the engine OFF. 4. Probe the ignition 1 voltage supply circuit of the fuel injector with a test lamp connected to a good ground.</p> <p>Does the test lamp illuminate?</p>	Go to DTC P0341	Go to Step 7
6	<p>1. Test the ignition 1 voltage supply circuit of each fuel injector for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. 2. Replace the fuse.</p> <p>Did you complete the action?</p>	Go to Step 8	--
7	<p>Repair the open or poor connection in the ignition 1 voltage supply circuit of the fuel injectors. Refer to Wiring Repairs in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to Step 8	--
8	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	System OK	Go to Step 3